REMARKS/ARGUMENTS

1. Rejection of claims 1-10 under 35 U.S.C. 102(e):

Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang (US 7,100,018).

5

Response:

To clarify the claim language, claims 1, 3, 5, and 6 have been amended. Step (e) of claim 1 now reads "adjusting the rank of the page type if the page type of the virtual address in step (b) and the tag compared bits in step (c) correspond with a

10   page type and a tag address in the TLB". Claims 3, 5, and 6 have been amended to be consistent with the amended claim 1. Independent claim 8 has not been amended, and is still in its original form. As such, the applicant would like to point out the patentable differences between claims 1, 3-5, and 8-10 and Zhang.

15   The present invention offers a way of mapping virtual addresses with different page types to physical addresses. Since some of these page types are more likely to be used than others, the page types are assigned ranks for reducing the amount different page types that need to be checked. Page types with higher numbers of successful comparisons are given higher ranks for reducing the comparing time

20   needed for comparing the various page types.

Although Zhang teaches that comparing a virtual address with translation lookaside buffer (TLB) generates a hit indication or a miss indication, Zhang does not teach the feature of the present invention of ranking page types according to the

25   number of successful comparisons, as will be explained below.

Claim 1 contains the limitation of "(e) adjusting the rank of the page type if the

page type of the virtual address in step (b) and the tag compared bits in step (c) correspond with a page type and a tag address in the TLB." In the claimed invention, the rank of the page type is adjusted according to whether the page type of the virtual address and the tag compared address of the virtual address correspond with that of the TLB.

On the other hand, Zhang does not teach or suggest any sort of scheme for adjusting the rank of the page type according to whether the page type and the tag compared address of the virtual address. Although Zhang teaches generating hits or misses according to the comparison of the virtual address and the TLB (column 8, lines 10-25), Zhang does not teach adjusting the ranking of the page type according to the number of hits or misses. Therefore, Zhang does not teach all of the limitations of claim 1.

In addition, with respect to **claims 3-5**, Zhang does not teach raising the ranks of page types or sorting the ranks of page types according to the number of times that the page types in the TLB are accessed.

Independent **claim 8** contains the limitation of "a rank generating module used for generating the ranks of the plurality of the page types in the TLB according to the checking result of the page type comparing module." As explained above with respect to claim 1, Zhang does not teach generating the ranks of the plurality of page types according to whether the page type of the virtual address and the tag compared address of the virtual address correspond with that of the TLB. Therefore, Zhang does not teach all of the limitations of claim 8.

As to **claims 9 and 10**, Zhang does not teach sorting the ranks of page types or raising the ranks of page types according to the number of times that the page types

6

in the TLB are accessed.

For the reasons listed above, the applicant respectfully submits that each of
claims 1, 3-5, and 8-10 is patentably distinct from Zhang. Furthermore, claims 2-7, 9,

5   and 10 are dependent on independent claims 1 and 8, and should be allowed if
claims 1 and 8 are allowed. Reconsideration of claims 1-10 is therefore respectfully
requested.

Applicant respectfully requests that a timely Notice of Allowance be issued in this

10   case.

Sincerely yours,

Date: _____04/12/2007_____

15   Winston Hsu, Patent Agent No. 41,526

P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

20

Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C.
is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)